Draft Report and Health Advisory for Fish from Selected Water Bodies in the Bear River, South Yuba River, and Deer Creek Watersheds (Nevada, Placer, and Yuba Counties)

a fact sheet by
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

February 2003

Why has OEHHA developed a draft health advisory for fish from certain water bodies in the Bear River, South Yuba River, and Deer Creek watersheds?

Studies by the U.S. Geological Survey indicated that some species of fish in these watersheds contain high levels of mercury and could pose harm to people who eat them frequently. The Office of Environmental Health Hazard Assessment (OEHHA) has evaluated the health effects of eating these fish and developed a draft report and health advisory with proposed guidelines for limiting the consumption of fish from certain lakes, rivers, and creeks in this region.

The draft report and advisory propose guidelines for eating bass, channel catfish, and other types of fish from Camp Far West Reservoir, Lake Combie, Lake Englebright, Rollins Reservoir, Scotts Flat Reservoir and portions of Bear River, South Yuba River, and Deer Creek. One set of guidelines applies to females of childbearing age and children age 17 and younger, who are particularly sensitive to methylmercury (the most prevalent form of mercury in fish). A second set applies to adult males and females beyond their child bearing years.

Because methylmercury affects neurological development, females of childbearing age and children age 17 and younger should carefully follow guidelines for eating these fish.

Why is mercury found in fish from this region?

Mercury in fish from these watersheds is a legacy of gold mining dating from the Gold Rush. Miners used mercury to extract gold from mined materials and discharged the waste into streams, where the mercury accumulated in the sediment. Bacteria convert this inorganic form of mercury into a more toxic, organic form known as methylmercury, which fish take in from their diet. Methylmercury can accumulate in fish to concentrations many thousands of times greater than mercury levels in the surrounding water. Because methylmercury accumulates in fish slowly over time, larger fish of a species usually have higher concentrations of methylmercury than smaller fish from the same water body. Predatory fish, such as bass, generally contain more methylmercury than non-predatory fish, such as trout.

What are the human health effects of methylmercury found in these fish?

Developing fetuses and children are especially sensitive to methylmercury. Pregnant females and nursing mothers can pass on methylmercury to their fetuses or infants through the placenta and through breast milk. Excessive exposure to methylmercury can cause damage to the nervous system in children, leading to subtle decreases in learning ability, language skills, attention, and memory. These effects may occur through adolescence as the nervous system continues to develop. For this reason, a more

conservative set of guidelines applies to females of childbearing years and children up to and including age 17.

In adults, the most subtle symptoms of methylmercury toxicity are numbness and tingling sensations in the hands and feet or around the mouth. Other symptoms at higher levels of exposure could include loss of coordination and vision problems.

The levels of methylmercury found in fish from these lakes and rivers should not result in the health effects described above if the proposed guidelines are followed. The extent of health effects depends on the amount of methylmercury that people ingest from the fish that they eat and is also related to a person's body weight.

What are the next steps in OEHHA's evaluation?

OEHHA is seeking public comment on the draft report and advisory guidelines. A public workshop to receive comments will be held on February 27, 2003, at the Nevada Irrigation District Conference Room, 1036 West Main Street, Grass Valley. Written comments can also be sent directly to OEHHA until February 27. OEHHA will review all comments before issuing a revised report and advisory. OEHHA will also consider new data that becomes available during this time period.

Should I stop eating all fish from this region?

No. Fish are a nutritious part of your diet when eaten in moderate amounts. By following OEHHA's guidelines for eating fish from this region, you can reduce your risk of health effects from exposure to methylmercury. This fact sheet provides proposed guidelines and a table to help you determine how much fish you should eat based on your body weight.

Because of the increased sensitivity to methylmercury during periods of neurological development, it is particularly important for females of childbearing age and children age 17 and younger to carefully follow the guidance provided. OEHHA offers separate advice for females beyond their childbearing years and adult males.

Additionally, because virtually all ocean and freshwater fish contain some level of methylmercury, OEHHA recommends that females of childbearing age and children aged 17 and younger do not eat shark, swordfish, king mackerel, or tilefish and limit their total consumption of any freshwater sport fish to no more than one meal per week. This advice is consistent with recent federal advice for eating commercial and sport fish.

Where can I get more information?

For information on mercury and other contaminants in sport fish in California, contact:

Office of Environmental Health Hazard Assessment
P.O. Box 4010, Sacramento, CA 95812-4010
(916) 327-7320 or http://www.oehha.ca.gov

For information on mercury in commercial fish, contact:

U. S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
1 (888) SAFEFOOD or http://www.cfsan.fda.gov

Draft Health Advisory for Fish from the Bear River, South Yuba River, and Deer Creek Watersheds

Proposed Fish Consumption Guidelines*

Location and Type of Fish	Females of childbearing age and children age 17 and younger Maximum Meals Per Month**	Females beyond childbearing years and males over age 17 Maximum Meals Per Month**
Camp Far West Reservoir		
All Bass	**DO NOT EAT**	2
Channel Catfish	2	4
Lake Combie		
Rollins Reservoir		
Scotts Flat Reservoir		
All Bass	1	2
Channel Catfish	2	4
Lake Englebright		
All Bass	1	4
Channel Catfish	2	4
Deer Creek		
All Trout	2	4
Bear River (below Hwy 20)		
South Yuba River (below Lake Spalding)		
All Trout	4	12
All waters listed above* **		
Other Sport Fish	4	12

* Limits for each type of fish assume that no other contaminated fish are eaten. If you eat different types of fish or fish from different waters, or if you also eat fish from a store or restaurant, do not eat more than the lowest number of meals recommended for the water bodies where you fish.

** Adjust meal size based on your body weight, as indicated in the table below.

***Not all fish species were evaluated at all sites. If no guidelines exist for a particular type of fish, follow guidelines for similar fish at the same or a nearby site, whichever recommend fewer meals. If guidelines are not available for a type of fish at any site, follow the advice for "Other Sport Fish."

Adjusting Meal Size for Body Weight

IF YOUR BODY WEIGHT IS…		YOUR MEAL SIZE SHOULD NOT EXCEED…	
Pounds	***Kilograms***	***Ounces***	***Grams***
19	9	1	28
39	18	2	57
58	26	3	85
77	35	4	113
96	44	5	142
116	53	6	170

IF YOUR BODY WEIGHT IS…		YOUR MEAL SIZE SHOULD NOT EXCEED…	
Pounds	***Kilograms***	***Ounces***	***Grams***
135	61	7	199
154	70	8	227
173	79	9	255
193	88	10	284
212	96	11	312
231 (and over)	105 (and over)	12	340